Depleted Uranium – Health Concerns

Chemical – The major health concerns about DU relate to its chemical properties as a heavy metal rather than to its radioactivity, which is very low. As with all chemicals, the hazard depends mainly upon the amount taken into the body. Medical science recognizes that uranium at high doses can cause kidney damage. However, those levels are far above levels soldiers would have encountered in the Gulf or the Balkans. For a more in depth discussion of DU's chemical effects, see the section on Health Effects from the Chemical Toxicity of Depleted Uranium in our Environmental Exposure Report, Depleted Uranium in the Gulf (II).

Radiation – Because depleted uranium emits primarily alpha radiation, it is not considered a serious external radiation hazard. The depleted uranium in armor and rounds is covered, further reducing the radiation dose. When breathed or eaten, small amounts of depleted uranium are carried in the blood to body tissues and organs; much the same as the more radioactive natural uranium. Despite this, no radiological health effects are expected because the radioactivity of uranium and depleted uranium are so low. For a more in depth discussion of DU's radiological effects, see the section on Health Effects from the Radiological Toxicity of Depleted Uranium in our Environmental Exposure Report, Depleted Uranium in the Gulf (II).

What do the experts say on cancer risk?

RAND, 1999. "(N)o evidence is documented in the literature of cancer or any other negative health effect related to the radiation received from exposure to natural uranium, whether inhaled or ingested, even at very high doses."

Department of Health and Human Services, Agency for Toxic Substances and Disease Registry (ATSDR) in 1999 Toxicological Profile for Uranium. "No human cancer of any type has ever been seen as a result of exposure to natural or depleted uranium."

United Kingdom Royal Society in May 2001. "Even if the estimates of risk are one hundred times too low, it is unlikely that any excess of fatal cancer would be detected within a group of 10,000 soldiers followed over 50 years."

European Commission March, 2001 report. "Taking into account the pathways and realistic scenarios of human exposure, radiological exposure to depleted uranium could not cause a detectable effect on human health (e.g. cancer)."

World Health Organization April, 2001 report. "The radiological hazard is likely to be very small. No increase of leukemia or other cancers has been established following exposure to uranium or DU."

European Parliament April, 2001 report. "The fact that there is no evidence of an association between exposures – sometimes high and lasting since the beginning of the uranium industry – and health damages such as bone cancer, lymphatic or other forms of leukemia shows that these diseases as a consequence of an uranium exposure are either not present or very exceptional."

What does medical follow-up tell us?

The voluntary Veterans Affairs DU Medical Follow-up Program began in 1993-1994 with the medical evaluations of 33 friendly-fire DU-exposed veterans, many with embedded DU fragments. An additional 29 of the friendly-fire victims were added to the follow-up program in1999. In 1998, the scope of the program was expanded to include Gulf War veterans who may have been exposed to DU through close contact with DU munitions, inhalation of smoke containing DU particulate during a fire at the Doha depot, or by entering or salvaging vehicles or bunkers that were hit with DU projectiles. The published results of these medical evaluations indicate that the presence of retained DU fragments is the only scenario predictive of a high urine uranium level, and those with embedded DU fragments continue to have elevated urine uranium levels ten years after the incident. It is unlikely that an individual without embedded DU fragments would have an elevated urine uranium level, and consequently any uranium-related health effects.

Those individuals with normal urine uranium levels now are unlikely to develop any uranium-related toxicity in the future, regardless of what their DU exposure may have been in the Gulf War. Those individuals with elevated levels of urine uranium ten years after the Gulf War have not developed kidney abnormalities, leukemia, bone or lung cancer, or any other uranium-related adverse outcome. The DU Medical Follow-up Program will continue to monitor those individuals with elevated urine uranium levels to enable early detection of any adverse health effects due to their continued exposure to embedded DU fragments.

Source: DeploymentLINK

http://www.deploymentlink.osd.mil/du_library/health.shtml